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NGUYEN, CUONG H

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN C. KRUMM and ERIC J. HORVITZ

Appeal 2017-005558
Application 13/190,121
Technology Center 3600

Before JENNIFER D. BAHR, MICHELLE R. OSINSKI, and
BRANDON J. WARNER, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

John C. Krumm and Eric J. Horvitz (Appellants)¹ appeal under 35 U.S.C. § 134 from the Examiner's decision (I) rejecting claims 1–20 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter; and (II) rejecting claims 1–20 under 35 U.S.C. § 103(a) as unpatentable over Tryon (US 2005/0228553 A1, pub. Oct. 13, 2005) and DeLorme (US 5,948,040, iss. Sept. 7, 1999). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART and enter a NEW GROUND OF REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

¹ According to Appellants, the real party in interest is Microsoft Technology Licensing, LLC. Appeal Br. 1.

THE CLAIMED SUBJECT MATTER

Claim 1, reproduced below, is illustrative of the claimed subject matter.

1. A memory device that stores instructions that, when executed, perform a method that facilitates determining one or more destinations of a user, the method comprising:

receiving input data about the user, the input data indicating at least one of specialized knowledge of the user, historical driving efficiencies, or historical driving times; and

determining travel data during a trip;

determining a likelihood for each of a plurality of candidate destinations based at least in part on the received input data about the user and the travel data to determine a plurality of likelihoods, the likelihood indicating, for each of the plurality of candidate destinations, a likelihood that the candidate destination is the destination of the trip, the likelihood being a trip time likelihood based at least in part on an estimated time to a candidate destination and an elapsed trip time; and

predicting one or more destinations for the trip based on the likelihoods for the plurality of candidate destinations.

DISCUSSION

Rejection I

Claims 1–9 and 17–20:

Independent claim 1 is directed to “[a] memory device that stores instructions.” Appeal Br. A1 (Claims App.). Similarly, independent claim 17 is directed to “[a] computer storage device comprising computer executable instructions.” *Id.* at A5. The Examiner determines that claims 1 and 17, and their dependent claims 2–9 and 18–20, “broadly cover transient, propagating signals,” and “transient, propagating signals are not patentable subject matter.” Final Act. 5 (emphasis omitted) (citing *In re Nuijten*, 500 F.3d 1346, 1356 (Fed. Cir. 2007)). Appellants argue “that a ‘memory

device’ and a ‘computer storage device’ are not transitory signals under any possible interpretation of these claim features.” Appeal Br. 7. We are not persuaded by this argument.

Appellants’ Specification discloses that “computer readable media can include but are not limited to magnetic storage devices (e.g., hard disk, floppy disk, magnetic strips, ...), optical disks (e.g., compact disk (CD), digital versatile disk (DVD), ...), smart cards, and flash memory devices (e.g., card, stick, key drive, ...).” Spec. ¶ 30. However, the Specification does not *exclude* transitory signal media from the scope of “memory device” or “storage device.” Therefore, the Examiner correctly construes claims 1 and 17 as encompassing transitory propagating signals, which constitutes subject matter that is not patent eligible under 35 U.S.C. § 101. *See Ex parte Mewherter*, 107 USPQ2d 1857, 1862 (PTAB 2013) (precedential) (holding recited machine-readable storage medium ineligible under § 101 because it encompassed transitory media); *see also* David J. Kappos, *Subject Matter Eligibility of Computer Readable Media*, 1351 Off. Gaz. Pat. Office 212 (Feb. 23, 2010) (“The broadest reasonable interpretation of a claim drawn to a computer readable medium . . . typically covers forms of . . . transitory propagating signals”); *In re Nuijten*, 500 F.3d at 1353 (holding that “transitory embodiments are not directed to statutory subject matter”).

Accordingly, we sustain the Examiner’s rejection of claims 1–9 and 17–20 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

Claims 10–16:

Independent claim 10 is directed to “[a] method that facilitates determining a destination of a user,” wherein the method steps are executed “with a computer that includes at least one processor and at least one memory that stores instructions.” Appeal Br. A3 (Claims App.). The Examiner determines that independent claim 10 and its dependent claims 11–16 “broadly cover transient, propagating signals.” Final Act. 5 (citing *In re Nuijten*, 500 F.3d at 1357). Appellants argue—and we agree—that the basis for the Examiner’s rejection of these claims is untenable. *See* Appeal Br. 10. Unlike the claims at issue in *In re Nuijten*, claims 10–16 are not directed to computer readable media, but, rather, recite a method—a series of acts or steps—and do not encompass transitory signals. *See In re Nuijten*, 500 F.3d at 1354–1355. As such, the Examiner erred in determining that claims 10–16 cover patent-ineligible transitory propagating signals, and thus we do not sustain the Examiner’s rejection of these claims under 35 U.S.C. § 101.

Rejection II

Independent claim 10 recites, in relevant part, “determine a likelihood for each of a plurality of candidate cells . . . , the likelihood being a trip time likelihood based at least in part on an estimated time to a destination within the candidate cell and an elapsed trip time.” Appeal Br. A3–A4 (Claims App.). Independent claims 1 and 17 recite similar limitations. *See id.* at A1, A5. The Examiner finds that Tryon discloses determining a likelihood based on an estimated time to a destination and an elapsed trip time. *See* Final Act. 7 (citing Tryon ¶¶ 42, 44, 59, 70, 81).

Appellants argue, *inter alia*, that “[Tryon] does not teach or suggest basing a trip time likelihood on an estimated time to a destination and an elapsed trip time.” Appeal Br. 16 (emphasis omitted). We agree with Appellants.

Appellants’ Specification describes determining the likelihood that a cell or location is a user’s end destination. *See* Spec. ¶¶ 39–40. For example, the Specification describes determining “the likelihood of cell *i* being the destination based on an observed measurement *X*.” *Id.* ¶ 40. The Specification also describes that a likelihood may be determined based on trip time data. *See id.* ¶ 73. In particular, the Specification describes that “destination estimator component 104 can further include a trip time component 802 that evaluates a likelihood associated with an estimated time to a candidate destination and/or an *elapsed trip time* related to a current trip.” *Id.* (emphasis added). In other words, the Specification describes determining a likelihood that a particular cell or location is a user’s end destination based at least in part on an elapsed trip time.

Tryon discloses predicting a vehicle’s destination based on current location and stored driving pattern data. *See* Tryon, Abstract. The cited portions of Tryon disclose determining a likelihood that a location is the user’s end destination based on the particular date, day of week, and/or time of day. *See, e.g., id.* ¶¶ 44, 50, 59, 70. The Examiner takes the position that the disputed limitation is “BROADLY interpreted as predict [sic] a trip time based on an estimated time to a destination.” Ans. 6 (citing Tryon ¶¶ 6, 11, 44, 54, 70, 81). However, Appellants persuasively assert that the Examiner’s interpretation does not account for the “the positively recited element of an elapsed trip time that is used to determine a trip time

likelihood.” Reply Br. 11. Here, the Examiner does not direct our attention to—nor do we find—any disclosure in Tryon of determining the likelihood based at least in part on an *elapsed trip time*. In other words, although Tryon discloses determining likelihoods based on time data, such time data is limited to a *time of day* for a user’s trip, but not an *elapsed time* for the trip.

Thus, the Examiner has not established by a preponderance of the evidence that Tryon, as relied upon in the rejection presented, teaches or suggests the disputed limitation as claimed. Further, the teachings of DeLorme relied on by the Examiner do not remedy this deficiency. *See* Final Act. 8.

For the above reasons, the Examiner has not met the burden of establishing a proper case that independent claims 1, 10, and 17 are unpatentable based on the cited references. Accordingly, we do not sustain the rejection of independent claims 1, 10, and 17, and of their respective dependent claims 2–9, 11–16, and 18–20, under 35 U.S.C. § 103(a) as being unpatentable over Tryon and DeLorme.

NEW GROUND OF REJECTION

Pursuant to our authority under 37 C.F.R. § 41.50(b), we enter the following new ground of rejection.

Claims 1–20 are rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.²

The Supreme Court has set forth “a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas

² The basis for this new ground of rejection under 35 U.S.C. § 101 is distinct from that presented by the Examiner in the Final Action. *See* Final Act. 4–6.

from those that claim patent-eligible applications of those concepts.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 132 S. Ct. 1289, 1294 (2012)). Under that framework, we first “determine whether the claims at issue are directed to one of those patent-ineligible concepts”—i.e., a law of nature, a natural phenomenon, or an abstract idea. *Id.* If so, we secondly “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 132 S. Ct. at 1298, 1297). The Supreme Court has described the second part of the analysis as “a search for an ‘inventive concept’—i.e., an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (alteration in original) (quoting *Mayo*, 132 S. Ct. at 1294).

Step One: Do the Claims Recite an Abstract Idea?

The Federal Circuit has described the first step as a determination of the “basic character of the claimed subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir. 2015) (citing *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Canada*, 687 F.3d 1266, 1273–74 (Fed. Cir. 2012)). The Federal Circuit has also indicated that this step should determine whether a claimed method “recites an abstraction—an idea, having no particular concrete or tangible form.” *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014); *see also Alice*, 134 S. Ct. at 2355 (“The ‘abstract ideas’ category embodies ‘the longstanding rule that

“[a]n idea of itself is not patentable.”” (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (further quotations and citations omitted)).

Under the first step of the analysis, we determine that independent claims 1, 10, and 17 are directed to an abstract idea. Namely, the claims are directed to determining one or more destinations of a user based on user trip data. Such activity amounts to receiving information (i.e., user pattern data and travel data) and manipulating the information using an algorithm to generate/output additional information (i.e., determining likelihoods for candidate locations being a user’s destination, and predicting the user’s destination).³ Our reviewing courts have held claims ineligible under § 101 when directed to manipulating existing information, such as by using algorithms, to generate additional information. *See Parker v. Flook*, 437 U.S. 584, 585, 594–96 (1978) (rejecting as ineligible claims directed to (1) measuring the current value for a variable in a catalytic conversion process, (2) using an algorithm to calculate an updated “alarm-limit value” for that variable, and (3) updating the limit with the new value); *Benson*, 409 U.S. at 71–72 (rejecting as ineligible claims directed to an algorithm for converting binary-coded decimal numerals into pure binary form); *Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (discussing how “collecting information” and “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more” are

³ Although claims 1, 10, and 17 recite the algorithm in words rather than as a mathematical formula, the claims nevertheless recite an algorithm. *See In re Grams*, 888 F.2d 835, 837 n.1 (Fed. Cir. 1989) (“It is of no moment that the algorithm is not expressed in terms of a mathematical formula. Words used in a claim operating on data to solve a problem can serve the same purpose as a formula.”).

abstract ideas); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (“Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.”).

Appellants assert that “the instant claims provide memory devices and computer storage devices that store instructions, as well as methods, directed to performing trip prediction, without preempting the entirety of this technical field, and which are not fundamental economic practices or the organization of information.” Reply Br. 6; *see also id.* at 5–6 (citing *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)). To the extent that Appellants argue that the present claims are not a complete preemption of the abstract idea (i.e., manipulating existing information to generate additional information), the Federal Circuit has rejected such an argument and noted that, although “the principle of preemption is the basis for the judicial exceptions to patentability,” and “preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice*, 134 S. Ct. at 2354). The Federal Circuit concluded that “[w]here a patent’s claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, . . . preemption concerns are fully addressed and made moot.” *Id.*; *see also id.* (holding that “[i]n this case, Sequenom’s attempt to limit the breadth of the claims by showing alternative uses of cffDNA outside of the scope of the claims does not change the conclusion that the claims are directed to patent ineligible subject matter”). Given this direction from our reviewing court,

we decline to apply a preemption standard in our analysis, and instead apply the steps set forth by the Supreme Court in *Alice* and *Mayo*.

In sum, for the reasons set forth above, the instant claims are directed to the abstract idea of manipulating existing information to generate additional information.

Step Two: Is There an Inventive Concept?

With respect to the second step of the *Alice* framework, Appellants argue that the present claims are similar to *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016) because they “provide for memory devices and computer storage devices that store instructions, as well as methods, directed to improving the functionality of computing devices for predicting trip destinations.” Reply Br. 5. Appellants similarly assert:

The instant claims when viewed in the proper context in their entirety likewise improve an existing technological process, i.e., destination prediction for trips in vehicles using trip time likelihoods based on an estimated time to a candidate destination and an elapsed trip time and probabilistic grids using specifically ordered steps and criteria, and are not merely known concepts and methods implemented by software on a computer.

Id. at 6 (citing *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)). This line of argument is not convincing.

Here, claims 1, 10, and 17 are not directed to anything more than a method that qualifies as an abstract idea (i.e., manipulating existing information to generate new information) for which a processor is invoked as a conventional tool. Appellants have not provided any specificity regarding any particular inventive technology associated with the steps in the claims. The computer elements described in the Specification and

claims (e.g., “computer,” “processor”) appear to function in a conventional manner to execute program instructions and operations. Receiving data and computing data are steps that are well-understood, routine, and conventional functions of a general-purpose computer, and Appellants do not provide adequate evidence to the contrary. The Specification supports this view by discussing only generic elements used in performing the steps. *See, e.g.*, Spec. ¶¶ 29, 30, 101, 104, 110. In particular, the Specification describes that “the claimed subject matter may be implemented as a method, apparatus, or article of manufacture using standard programming and/or engineering techniques to produce software, firmware, hardware, or any combination thereof to control a computer to implement the disclosed subject matter.” *Id.* ¶ 30. Although the Specification describes that “the inventive methods may be practiced with other computer system configurations,” the Specification only lists generic computer hardware elements “including single-processor or multi-processor computer systems, minicomputers, mainframe computers, as well as personal computers, hand-held computing devices, microprocessor-based and/or programmable consumer electronics.” *Id.* ¶ 101. There is no further description, in the claims or the Specification, of any particular technology for performing the steps recited in the claims other than generic computer components used in their ordinary capacity as a tool to perform mathematical operations to apply the abstract idea. In this regard, the “recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.” *DDR*, 773 F.3d at 1256 (citing *Alice*, 134 S. Ct. at 2358)). In sum, claims 1, 10, and 17 are directed merely to ordinary functionality of a generic processor (e.g., manipulating data to

generate new data), and not to a specific application of computation and analysis designed to achieve an improved technological result.

For the above reasons, the recited elements, considered individually and as an ordered combination, do not constitute an “inventive concept” that transforms independent claims 1, 10, and 17 into patent-eligible subject matter. *See Alice*, 134 S. Ct. at 2355. Likewise, we find nothing in dependent claims 2–9, 11–16, and 18–20 to be sufficiently transformative to render the claims patent eligible. Accordingly, we reject claims 1–20 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

DECISION

The Examiner’s decision rejecting claims 1–20 under 35 U.S.C. § 101 is affirmed as to claims 1–9 and 17–20, and reversed as to claims 10–16.

The Examiner’s decision rejecting claims 1–20 under 35 U.S.C. § 103(a) is reversed.

We enter a new ground of rejection of claims 1–20 under 35 U.S.C. § 101.

FINALITY OF DECISION

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.” 37 C.F.R. § 41.50(b) also provides:

When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground

of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. . . .

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)